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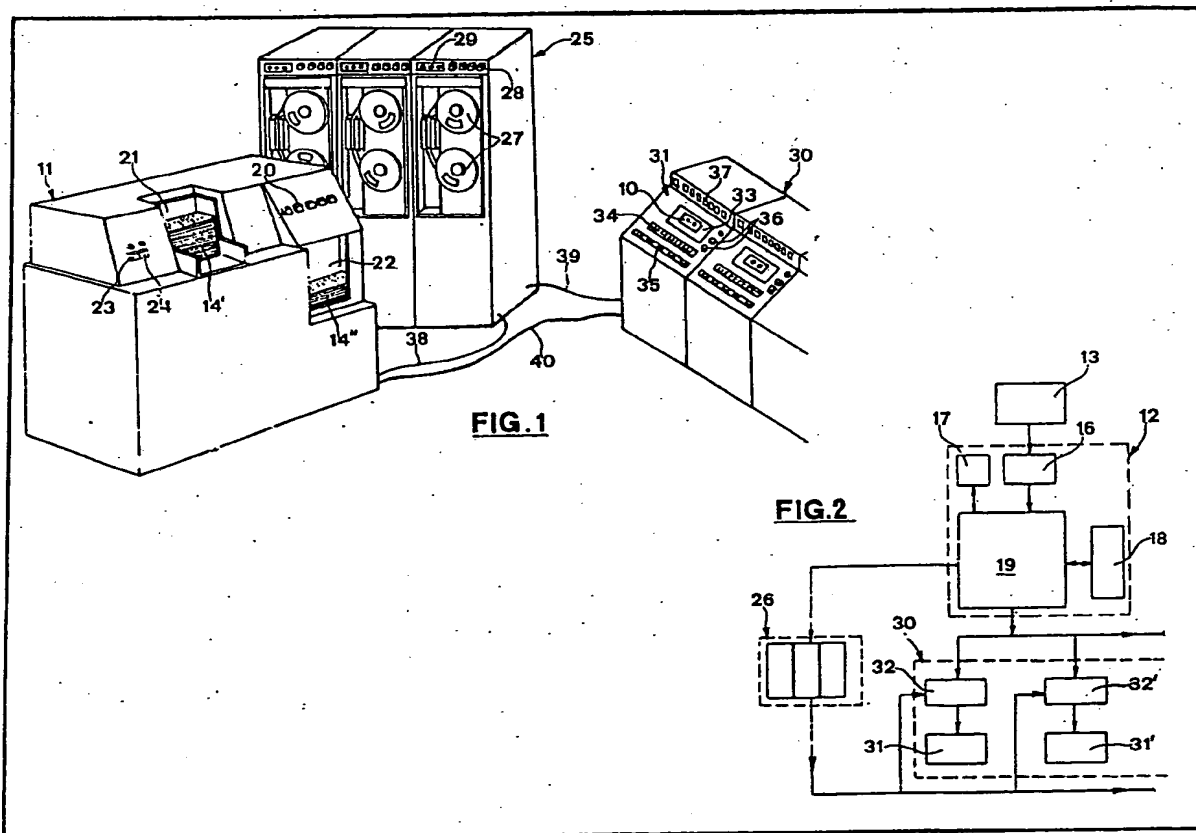
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 (71) Applicant
 Berardo Massari,
 Gramsci 76,
 Rozzano,
 (Milano),
 Italy
 (72) Inventor
 Berardo Massari

(74) Agents
 J. F. Williams and Co.,
 34 Tavistock Street,
 London,
 WC2E 7PB

(54) System for the production of tape cassettes, cartridges or the like

(57) An electronic-mechanical automatic system for the production of audio and/or video tape cassettes, cartridges or the like comprises a central memory store (25) of pieces for recording on the cassettes, cartridges or the like, a computer (11, 12) with an input device (13) for pre-recorded instructions, and an apparatus (30) for recording tape

cassettes, cartridges or the like connected to storage means, the computer making a search in the central memory store (25) for one or more pieces, according to the pre-recorded instructions, and sending these pieces to the storage means of the recording unit (30), this unit (30) then recording on tapes contained in the cassettes, cartridges (10) or the like, pieces corresponding to those indicated by the pre-recorded instructions and in the same order as the pre-recorded instructions, the pre-recorded instructions having been prepared by the manufacturer of tape cassettes, cartridges (10) or the like in accordance with the instructions he has received from the customer.



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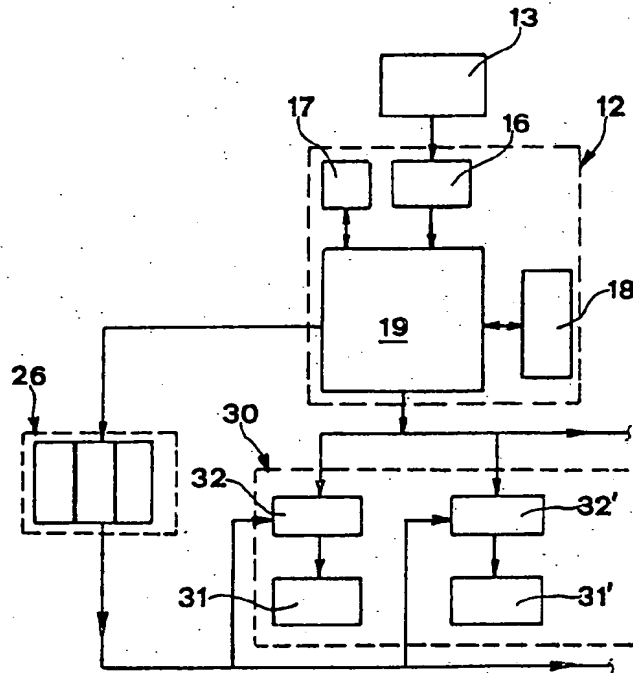


FIG. 2

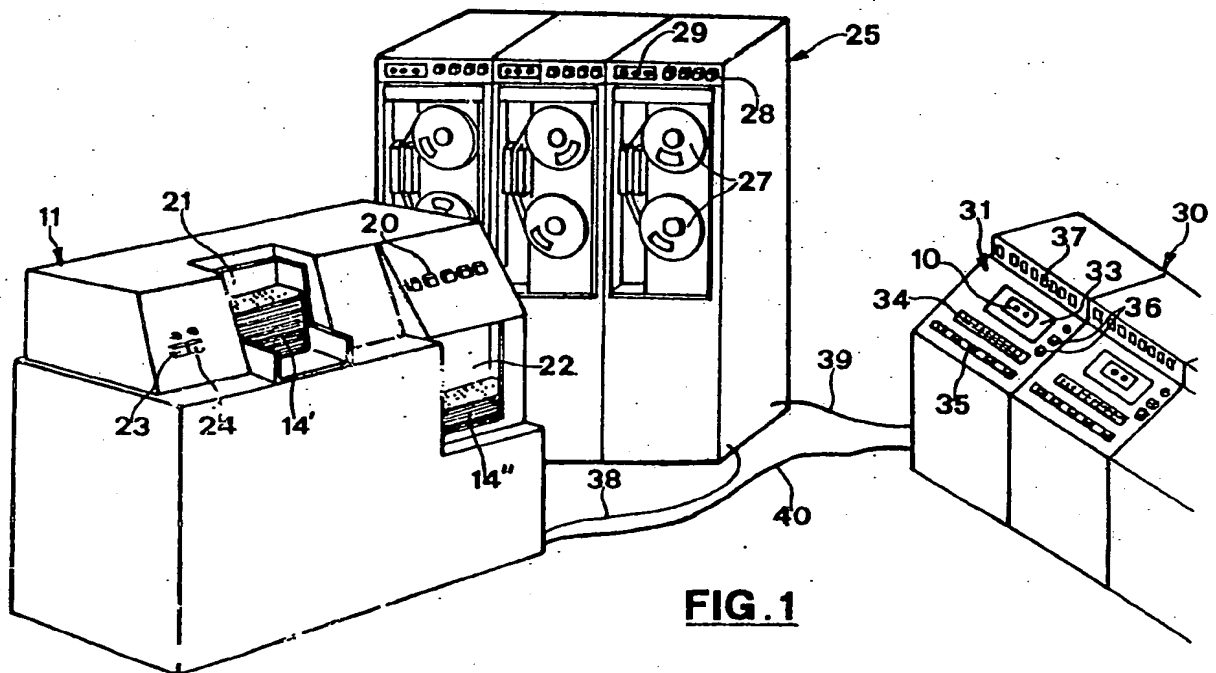


FIG. 1

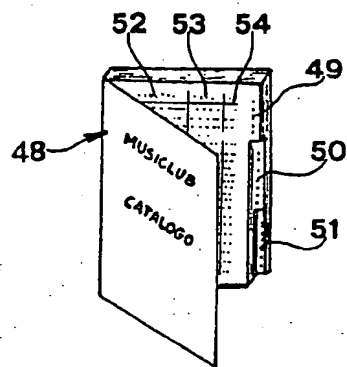


FIG. 3

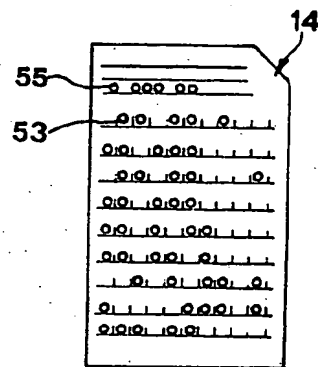


FIG. 4

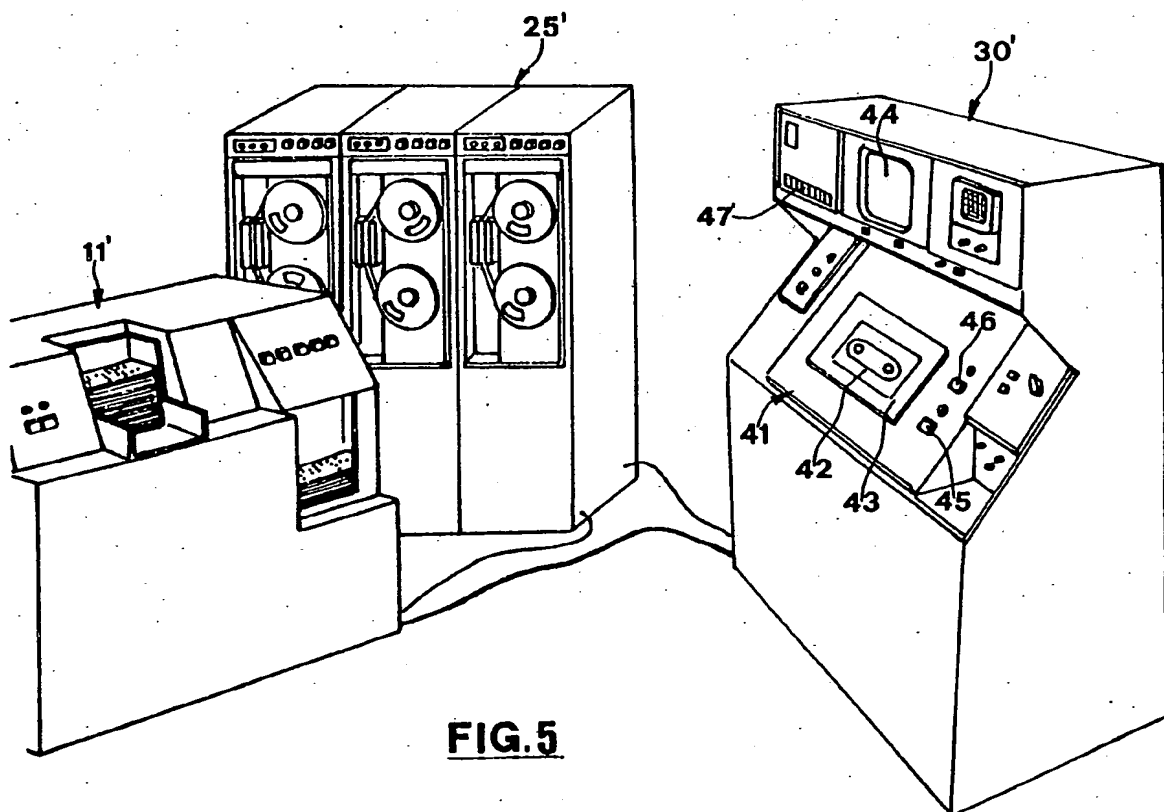


FIG. 5

SPECIFICATION

System for the production of tape cassettes cartridges or the like

This invention relates to a system for making
 5 "Personalized" Audio Tape Cassettes and Video Tape Cartridges or the like. Well known to all are the audio tape cassettes, cartridges, or the like and video cartridges or the like making it possible to reproduce various pieces such as songs,
 10 melodies, reportages, shows, recitals, documentaries, teaching material, extracts from films and from television shows, anything generally that people want to hear or see. In this specification and claims, the terms "cassettes" and "cartridges" include all forms of media on
 15 which suitable recordings can be made. Such media include both cassettes and cartridges together with reel to reel tapes etc.

Frequently the user would prefer pieces other
 20 than those on sale and especially one or more of those recorded on tape cartridges for audio or for video which oblige him to purchase undesired pieces. On the other hand the maker clearly cannot put tape cartridges on sale with pieces so
 25 assorted as to please everyone as too much storage space would be needed and costs become prohibitive. The invention offers a solution to the problem together with many other advantages as will be explained here below.

30 The invention seeks to provide a system whereby audio tape cassette cartridges and video tape cartridges, or equivalent means, can be recorded with pieces chosen by the customer, namely "personalized" tape cartridges.

35 According to a first aspect of the invention, there is provided an electronico-mechanical automatic system for central memory store of pieces for recording on the cassettes, cartridges or the like, a computer with an input device for
 40 pre-recorded instruction, an apparatus for recording tape cassettes cartridges or the like connected to storage means, the computer making a search in the central memory store for one or more pieces, according to the pre-recorded
 45 instructions and sending these pieces to the storage means of the recording unit, this unit then recording on tapes contained in the cassettes cartridges or the like, pieces corresponding to those indicated by pre-recorded instruction and in
 50 the same order as the pre-recorded instructions, the pre-recorded instructions having been prepared by the manufacturer of tape cassettes cartridges or the like in accordance with the instructions he has received from the customer.

55 According to a second aspect of the invention, there is provided an automatic electronic mechanical system for the production of audio cartridges, for audio cassettes or the like wherein the system comprises a central memory store of
 60 manual recordings for audio cassettes, a computer with an input device for pre-recorded instructions, an apparatus for recording audio tape cassettes connected to storage means, the computer making a search in the central memory

65 store for one or more musical works, according to the instructions provided at its input device, and sending these recordings to the storage means of the recording unit, this unit then recording on audio tape cassettes pieces corresponding to
 70 those indicated by input device and in the same order as indicated by the input device, the pre-recorded instructions having been prepared by the manufacturer of the audio tape cassettes in accordance with the instructions he has received
 75 from the customer.

According to the third aspect of the invention, there is provided an electronic mechanical system for the production of video tape cartridges wherein the system comprises a central memory
 80 store in which a number of television film shows, recitals, films and pieces generally for video tape cartridges are recorded; a computer with an input device for pre-recorded instructions means, and an apparatus for recording video tape cartridges connected to storage means, the computer
 85 making a search in the central memory store for one or more pieces for video tape cartridges, in accordance with the instructions at the input device, and transmitting these pieces to the storage means of the recording unit, this unit then
 90 recording on the video tapes contained in the cartridges, pieces corresponding to those indicated by the pre-recorded instructions and in the same order as the pre-recorded instructions, the pre-recorded instructions having been
 95 prepared by the manufacturer of video tape cartridges in accordance with the instructions given him by the customer.

The purchaser or customer may choose his
 100 pieces from a catalogue published periodically by the organisation which makes and sells the tape cassettes or cartridges.

The catalogue may give the titles of the musical and video pieces available, the names of
 105 those executing them (singers, orchestras, actors, speakers, lecturers, performers generally), the code number belonging to each title, the exact time taken for playing the whole tape and for each single piece. The equipment for recording the tape
 110 cartridges with pieces chosen by the customer may include the central memory store, a computer with punched card reader, and the recorder itself.

The computer may comprise a transit memory unit, a logic-mathematical unit, another unit
 115 constituting the working memory store and a further one for control and operation. The central memory store may operate by a set of magnetic tapes or discs, or their equivalent, and on these
 120 may be recorded, according to their code, all the pieces included in the computer with all the data needed for controlling the recordings.

The recording equipment may comprise a set of units for recording tape cartridges for audio or
 125 for video, each of which is connected to a peripheral memory.

The customer or user makes his choice of the pieces he wants to have recorded on a single tape cartridge, naturally allowing for the performance

time of each one, and, by letter or by some other means, makes the code number known to the manufacturer who then prepares instructions, such as a user's punched card, accordingly.

5 In an embodiment where punched cards are used, having prepared the punch card, the manufacturer puts it into the card reader. The computer notes the information and passes it on to the transit memory controlled by the control
10 unit which, aided by the logic-mathematical unit and by the working memory, searches for the requested pieces in the central memory store.

The computer then passes these pieces to the peripheral memories connected to the recording
15 units; the pieces are then recorded on the tape cartridge in accordance with the orders sent through the punched card.

From the time the punched card is placed in the card reader the whole process is entirely
20 automatic and is handled at each stage by the computer.

This invention will now be described in greater detail, by way of example, with reference to the schematic drawings, in which:—

25 Fig. 1 shows a room in which the personalized audio tape cassettes are recorded;

Fig. 2 shows the layout of the main pieces of equipment;

30 Fig. 3 shows a catalogue of pieces available for recording;

Fig. 4 shows a punched card and

Fig. 5 shows a room in which the personalized video tape cartridges are recorded.

35 Fig. 1 shows the set of equipment for recording the personalized tape cartridges for audio (10) and Fig. 2 shows the electronic layout of the system.

The cabinet (11) contains the computer (12) and the reader unit (13) for the punched cards (14). (see also Fig. 4.) The computer itself (12)
40 comprises: the transit memory unit (16), the logic-mathematical unit (17) the working memory unit (18) and the operation and control unit (19). By means of the set of indicator lights (20), the
45 various operational stages can be followed from the outside. The card reader unit has two compartments (21) and (22) to hold the incoming cards (14') and the outgoing cards (14") respectively.

50 Reading is controlled by the hand-operated selector buttons (23) and (24). The cabinet (25) contains the data store (26).

The cabinet comprises a set of magnetic tape discs (27). The manual controls (28) are arranged
55 on the outside and the set of indicator lights (29) show the operative stages.

Cabinet (30) consists of a series of units (31) for recording the tape cartridges for audio (10)
60 each of which is connected to a circuit (32) constituting the peripheral memory.

The upper surface (31) of each unit is designed to accommodate the cartridges in the recess (33), the visualizer (34) for recording control, the push
65 buttons (35) for operation and (36) for putting the tape cartridge in and taking it out. The three

cabinets are connected to each other by the cables (38), (39) and (40).

Fig. 5 illustrates a complex similar to the one described above with the exception of cabinet (30') which in this case is composed of a unit (41)
70 for recording tape cartridges for video (42) connected to a circuit of peripheral memories.

The following can be noted on the upper surface of the unit (41): the recess (43) for
75 holding the cartridges, the push button (45) for operation and (46) for putting the cartridges in and taking them out. Above this is the monitor (44) for controlling the recording, and the display (47) showing the customer's code. The catalogue
80 (48) giving the musical repertoire prepared by the makers and made available to the user (Fig. 3) is divided into three parts: "pieces" (49), "singers" (50) and "orchestras" (51). Each section is
85 divided again into three columns and, for each piece, lists: title and performer (52), code number (53) and performance time (54) in minutes and seconds.

As the tape (10) recording time and also the time for each piece are known, the user makes his
90 choice on this basis and decides the number of pieces which the tape cartridge (10) for audio must contain after which he forwards his request to the manufacturer listing, tape by tape, the preferred recordings and the code number for
95 each piece.

On receiving the order, the manufacturer has a card specially punched for insertion into the computer.

The first line on the card is used for punching
100 the code number (55) distinguishing the customer's order, and the following lines are used for punching codes (53) for the requested pieces.

The card reader (13) takes the details from the card (14) and transfer them to the transit memory
105 (16) controlled by the control unit (19) which, with the aid of the other two units—the logic-mathematical (17) and the working memory (18) make a search for the requested pieces in the data store (26).

110 In accordance with their code (53) all the pieces listed in the catalogue (48), with all the data for controlling their recording, are recorded on the tapes in this store.

Each group of pieces, constituting one tape cartridge for audio (10), is sent to the peripheral
115 memories (32), (32') etc., which in turn control the work of the recording boxes (31), (31') etc.

The customer's order code number (55) is shown on the display (37) of each recording unit (31). The process is thus entirely automatic and is
120 operated throughout all its stages by the computer (12). All that has to be done manually is to put the cards (14) into their input compartment and replace the tape cartridge for audio (10) with
125 another one.

The complex for recording tape cartridges for video (42) (Fig. 5) works on the same principle as that described above. Obviously, in this case the
130 contents of the data store and of the catalogue consists of pieces for video such as parts of

recitals, films, television shorts, etc., and of recordings generally for tape cartridges for video.

In the same way the computer will contain the parameters for controlling recordings of tape cartridges for video instead of tape cartridges for audio.

The advantages of the invention are thus clear. What happens in practice is that perfect correspondence is established between a rational form of production and sale on the part of the manufacturer and satisfaction of the user's preferences.

The user, practically speaking without any increased cost to himself, can have a tape recorded in accordance with his own wishes and thus hear pieces specially chosen, and in the desired order.

As the applications of the invention have been described as examples and are not limited to these, it is understood that any equivalent application of the inventive concepts explained and any present product and/or one operating in accordance with the characteristics of the invention, will be covered by its field of protection.

25 Claims

1. An electronic-mechanical automatic system for the production of audio and/or video tape, cassettes cartridges or the like wherein the system comprises a central memory store of pieces for recording on the cassettes, cartridges or the like, a computer with an input device for pre-recorded instruction, an apparatus for recording tape cassettes, cartridges or the like connected to storage means, the computer making a search in the central memory store for one or more pieces, according to the pre-recorded instructions and sending these pieces to the storage means of the recording unit, this unit then recording on tapes contained in the cassettes, cartridges or the like, pieces corresponding to those indicated by the pre-recorded instructions and in the same order as the pre-recorded instructions, the pre-recorded instructions having been prepared by the manufacturer of tape, cassettes, cartridges or the like in accordance with the instructions he has received from the customer.

2. An automatic electronic-mechanical system for the production of audio cartridges, cassettes or the like for audio wherein the system comprises a central memory store of musical recordings for audio cassettes, a computer with an input device for pre-recorded instructions, an apparatus for recording audio tape cassettes connected to storage means, the computer making a search in the central memory store for one or more musical works, according to the instructions provided at its input device and sending these recordings to the storage means of the recording unit, this unit then recording on audio tape cassettes pieces corresponding to those indicated by input device and in the same order as indicated by the input device, the pre-recorded instructions having been prepared by the

manufacturer of the audio tape cassettes in accordance with the instructions he has received from the customer.

3. A system as claimed in claim 2, wherein the input device is a punched card reader and the pre-recorded instructions are punched in the card.

4. A system as claimed in claim 2 or 3 wherein the manufacturer provides customers with a catalogue or the like listing titles of the various works the manufacturer has available, the names of those executing the works, such as singers, orchestras, musicians, actors, lecturers, and performers generally, a specific code number for each title, the playing time taken by the whole tape and by each piece, to enable the customer to choose from the catalogue the musical works he wishes to have recorded on a single tape, to inform the manufacturer of his choice by stating the code number so that the manufacturer can prepare the prerecorded instructions with which to operate the computer, the latter then automatically working the recording equipment.

5. An automatic electronic-mechanical system for the production of video tape cartridges wherein the system comprises a central memory store in which a number of television film shows, recitals, films and pieces generally for video tape cartridges are recorded; a computer with an input device for pre-recorded instructions, and an apparatus for recording video tape cartridges connected to storage means; the computer making a search in the central memory store for one or more pieces for video tape cartridges in accordance with the instructions at the input device, and transmitting these pieces to the storage means of the recording unit, this unit then recording on the video tapes contained in the cartridges, pieces corresponding to those indicated by the pre-recorded instructions and in the same order as the pre-recorded instructions, the pre-recorded instructions having been prepared by the manufacturer of video tape cartridges in accordance with the instructions given him by the customer.

6. A system as claimed in claim 5, wherein the input device is a punched card reader and the pre-recorded instructions are punched in the card.

7. An electronic-mechanical automatic system for the production of video tape cartridges as claimed in claim 5 or 6, wherein the manufacturer provides the customers with a catalogue or similar listing giving the titles of the pieces for video tapes that the manufacturer has available, the performers and creators of such pieces, a specific code number for each title, the playing time taken by the whole tape and by each piece, to enable the user to choose from the catalogue the pieces he wants to have recorded on a single video tape, to inform the manufacturer of his choice by stating the code number so that the manufacturer can prepare the pre-recorded instructions with which to operate the computer, the latter then automatically working the recording equipment.

8. An automatic electronic-mechanical system

for the production of audio cassettes and/or video cartridges as claimed in claim 1 and claim 5 wherein the same computer is used for both video and audio recordings.

5 9. An automatic electronic-mechanical system for the production of audio cassettes and/or video cartridges substantially as described herein with reference to the drawings.

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